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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/727,262	11/30/2000	Mithat C. Dogan	015685.P049	5498

7590 03/18/2004

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EXAMINER	
LOGSDON, JOSEPH B	
ART UNIT	PAPER NUMBER
2662	

DATE MAILED: 03/18/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/727,262	DOGAN, MITHAT C.	
	Examiner	Art Unit	
	Joe Logsdon	2662	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-23 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-23 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date 3.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Claim Rejections—35 U.S.C. 112, Second Paragraph:

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 17 and 23 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 17 and 23 recite the limitation "the training sequence." There is insufficient antecedent basis for this limitation in the claims.

Claim Rejections—35 U.S.C. 103(a):

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 1, 5, 6, 8, 11, 15, 16, 18, and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dent in view of Rahnema.

With regard to claims 1, 11, and 18, Dent teaches receiving a downlink broadcast from a base station (abstract); determining timing for an uplink signal from the received broadcast signal (abstract) selecting an amount of delay for the uplink signal (abstract);

and transmitting an uplink signal to the base station using the determined timing and the selected amount of delay (abstract). Dent fails to teach that the signals are bursts. Rahnema teaches the application of signal bursts to timing determination (abstract; column 1, line 66 to column 2, line 8). It would have been obvious to one of ordinary skill in the art to use signal bursts, as in Rahnema, because such an arrangement would be a simple, effective way to determine timing.

With regard to claim 5, Dent fails to teach that determining the timing comprises determining nominal timing relative to a frame of the broadcast burst. Rahnema teaches that the origin of time can be taken as the instant of receipt of the burst (column 3, lines 58-62). It would have been obvious to one of ordinary skill in the art to modify the invention of Dent so that it teaches that determining the timing comprises determining nominal timing relative to a frame of the broadcast burst, as in Rahnema, because such an arrangement would enable the system to determine the timing in a simple manner.

With regard to claims 6 and 15, Dent fails to teach that determining timing comprises determining timing on a broadcast channel on which the broadcast burst was received. Rahnema teaches that bursts are used for determining timing (abstract) The timing on the broadcast channel is inherently determined by this method. It would have been obvious to one of ordinary skill in the art to modify the invention of Dent so that it teaches that determining timing comprises determining timing on a broadcast channel on which the broadcast burst was received, as in Rahnema, because such an arrangement would enable the system to determine the appropriate timing for each channel.

With regard to claim 8, Dent fails to teach that the bursts comprise symbols wherein the selected amount of delay is between zero and nine symbol times. It would

have been obvious to one of ordinary skill in the art to modify the invention of Dent so that the delay is between zero and nine symbol times because such an arrangement is a matter of design choice; the choice of zero to nine symbol times would depend on the system.

With regard to claim 23, Dent fails to teach that the bursts comprise symbols, wherein the training sequence comprises a repeating core sequence and wherein the selected amount of delay corresponds to a symbol time shorter than the symbol time of the core sequence. It would have been obvious to one of ordinary skill in the art to modify the invention of Dent so that it teaches that the bursts comprise symbols, wherein the training sequence comprises a repeating core sequence and wherein the selected amount of delay corresponds to a symbol time shorter than the symbol time of the core sequence because such an arrangement would enable the system to accurately determine the correct delay for the mobile stations.

5. Claims 2-4, 9, 10, 12-14, and 19-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dent and Rahnema, as applied to claims 1, 11, and 18 above, and further in view of Tiedemann, Jr.

With regard to claim 9, Dent fails to teach that transmitting the uplink burst comprises transmitting the uplink burst with a training sequence. Tiedemann, Jr. et al. teaches that the bursts include a training sequence (abstract). It would have been obvious to one of ordinary skill in the art to modify the invention of Dent so that transmitting the uplink burst comprises transmitting the uplink burst with a training sequence, as in

Tiedemann, Jr. et al. because such an arrangement would enable the mobile stations to use a training sequence to determine their timing.

With regard to claims 4, 14, and 21, Dent fails to teach that the amount of delay is selected by determining a digit from an identification number of the user terminal and applying the determined digit to selecting from a set of different amounts of delay. Tiedemann, Jr. et al. teaches that the amount of delay is selected by determining a digit from an identification number of the user terminal and applying the determined digit to selecting from a set of different amounts of delay (abstract). It would have been obvious to one of ordinary skill in the art to modify the invention of Dent so that it teaches that the amount of delay is selected by determining a digit from an identification number of the user terminal and applying the determined digit to selecting from a set of different amounts of delay, as in Tiedemann, Jr., because such an arrangement would be an effective way of selecting the random delay.

With regard to claims 2, 12 , and 19, Dent fails to teach that the delay is randomly selected. Tiedemann, Jr. et al. teaches that the delay is randomly selected (abstract). It would have been obvious to one of ordinary skill in the art to modify the invention of Dent et al. so that it teaches that the delay is randomly selected, as in Tiedemann, Jr. et al., because such an arrangement would enable the system to reduce the probability of collisions.

With regard to claims 3, 13, and 20, Dent fails to teach that the random selection is made by generating a random number and using the random number to make the selection. Tiedemann, Jr. et al. teaches that the random selection is made by generating a random number and using the random number to make the selection (abstract). It would

have been obvious to one of ordinary skill in the art to modify the invention of Dent so that it teaches that the random selection is made by generating a random number and using the random number to make the selection because such an arrangement would enable the system to avoid collisions.

With regard to claim 10, Dent fails to teach that the bursts comprise symbols, wherein the training sequence comprises a repeating core sequence and wherein the selected amount of delay corresponds to a symbol time shorter than the symbol time of the core sequence. It would have been obvious to one of ordinary skill in the art to modify the invention of Dent so that it teaches that the bursts comprise symbols, wherein the training sequence comprises a repeating core sequence and wherein the selected amount of delay corresponds to a symbol time shorter than the symbol time of the core sequence because such an arrangement would enable the system to accurately determine the correct delay for the mobile stations.

4. Claims 7, 16, 17, and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dent and Rahnema, as applied to claims 1, 11, and 18 above, and further in view of Otsuka.

With regard to claims 7, 16, and 22, Dent fails to teach that the method further comprises the steps of receiving a timing advance message from the base station in response to the uplink burst; and advancing timing in accordance with the timing advance message reduced by the selected amount of delay. Otsuka teaches transmission by the mobile of a burst (uplink burst) with a timing offset equal to the timing advance (column 3, lines 30-34). It would have been obvious to one of ordinary skill in the art to modify

the invention of Dent so that it teaches that the method further comprises the steps of receiving a timing advance message from the base station in response to the uplink burst; and advancing timing in accordance with the timing advance message reduced by the selected amount of delay, as in Otsuka, because such an arrangement would enable the system to adjust its timing based on signals received for the base station.

With regard to claim 17, Dent fails to teach that the bursts comprise symbols, wherein the training sequence comprises a repeating core sequence and wherein the selected amount of delay corresponds to a symbol time shorter than the symbol time of the core sequence. It would have been obvious to one of ordinary skill in the art to modify the invention of Dent so that it teaches that the bursts comprise symbols, wherein the training sequence comprises a repeating core sequence and wherein the selected amount of delay corresponds to a symbol time shorter than the symbol time of the core sequence because such an arrangement would enable the system to accurately determine the correct delay for the mobile stations.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Schein et al., Ottosson et al., Karlstrom, and Balogh et al. are cited to show the state of the art.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joe Logsdon whose telephone number is (703) 305-2419.

The examiner can normally be reached on Monday through Friday from 10:00 am to 6:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hassan Kizou, can be reached on 703-305-4744. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Joe Logsdon

Patent Examiner

Monday, March 15, 2004

HASSAN KIZOU
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600